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PROFESSIONAL EXPERIENCE**Scientific and Technical Advisor, AAR-100 (Human Factors Division), Federal Aviation Administration, Washington D.C.** (August 2000 - present).

- Program Manager for General Aviation, Vertical Flight, and Aviation Maintenance human factors research programs for the Federal Aviation Administration.
 - Develop, coordinate, implement, and manage research programs (over \$2 million dollars) to ensure that it is meeting the needs of sponsoring organizations, Congress, and FAA.
 - Conduct early evaluation of system acquisitions risk areas and determination of appropriate human factors activities to mitigate those risks, and prepare documentation on identified risks and their impacts.
 - Conduct basic and applied vision research.
- Created an interactive web application database to archive grant and contract information that will be used to summarize AAR-100 research program. This program overview provides detailed information about each grant's PI, milestones, objectives, technical approach, accomplishments, publications, and an assortment of other relevant information.
- Developed, demonstrated, and tested an alternative method *Enhanced Vision* technology to aid the tower controller in gaining and maintaining situation awareness of airport traffic under night and low-visibility conditions.

Vision Scientist, Optical Sciences Division, Naval Research Laboratory, Washington D.C. (February 2001 – present).

- Lieutenant Commander, MSC, USNR assigned as department head to Naval Research Laboratory Science and Technology Unit 206.
- Successfully demonstrated a shipboard “TVE” navigation display by mounting the unit on the stern of the USS John F. Kennedy (CV-67) with the USS The Sullivans (DDG-68)

located astern on the carrier in plane guard position on April 20th, 2001. The USS Sullivans' Commanding Officer and bridge crew stated that TVE display "definitely made station keeping easier, reduced bridge team workload, and improved situational awareness."

- Awarded a FY02 Office of Naval Research grant to manage, design, fabricate, test and evaluate the TVE display on two US Navy aircraft carriers for an extended sea-worthy evaluation.
- Submitted a United States patent entitled "Tactical Vectoring Equipment (TVE)" that enhances conning officers' situational awareness by providing immediate feedback as to whether the aircraft carrier had changed bearing or speed, thus enabling the operator to initiate the appropriate input to maintain station astern of the carrier.

Assistant Professor, Department of Operations Research, Naval Postgraduate School, Monterey, CA (April 1997 – July 2000).

- Founded and currently directs the Human Factors Option in the Operations Research Graduate Program. Supervise master's thesis students and teach graduate level courses in experimental design, data collection techniques, statistical analyses, aviation human factors, and technical writing.
- Conceptualized an engineering design that increased a tactical aircraft's standoff range during weapon's deployment by displaying fused infrared and visible light energy to a pilot in a way which significantly increases the probability that the pilot would detect a target.
- Implemented my sensor fusion concept into a Naval acquisition requirement for the F/A-18 NITE Hawk targeting infrared pod and the AH-1W night vision sensor suite upgrade.
- Closely interacted with the Lockheed Martin E&M Corporation to demonstrate and validate the concept's payoff to the requirements office in the acquisition agency (Naval Air Systems Command).
 - Administered contracts to integrate an experimental sensor in an operational targeting pod.
 - Administered contracts to private industry and government laboratories to gather data during test flights.
 - Developed flight plans to test and evaluate research objectives, participated in safety of flight approval for the series of experiments, and actually co-piloted the plane on nine NASA F/A-18 test flights.

- The sensor fusion technology has transitioned to other platforms as well; for example, it is used to enhance commercial airline pilots' ability to land during low visibility, to help soldiers detect targets in all weather and terrain environments using the Army's 2010 Land Warrior night vision system, and to enhance automobile drivers' nighttime situational awareness.
- Obtained over 1.2 million dollars in grants for my human factors research program over the last three years. This demonstrates my ability to craft, market, and execute a comprehensive research program.
- Identified an inexpensive commercial off-the-shelf technology to solve a maritime hazard that cost the Navy millions of dollars by developing a visual navigation aid to assist shipboard conning officers while maneuvering in a battle group formation. The superior performance of this navigation aid was demonstrated in a virtual environment. Discussions with Naval acquisition personnel regarding implementation in the operational fleet are progressing.
- Wrote statements of work and monitored contracts with commercial and government agencies for several human factors research programs. Responsible for selecting the contractor, negotiating contract amount, monitoring the progress of the contract, and ensuring that the contractor fulfills the agreement.
- Reviewed and assisted Office of Naval Research program managers monitor SBIR Phase I and II programs.
- Hired, evaluated, and supervised two Office of Naval Research American Society for Engineering Education postdoctoral fellows, advised more than twenty military officer master's theses, supervised staff required to support my 3000 square foot human factors laboratory.
- Awarded lead laboratory status for the investigation of Naval aviator retention.
 - Developed and administered surveys, analyzed data, developed retention models used to predict future manpower requirements, then presented results to sponsors, and generated additional interest to pursue similar issues for other military sponsors.
- Published over 40 refereed journal articles and conference proceedings. This accomplishment illustrates my ability to convey ideas, collect and evaluate data, and write technical papers.
- Consulted with numerous government and non-government agencies to assist in formulating testable hypotheses, designing experiments, assisting with data collection, and providing statistical advice.

- Editor of the Human Factors and Ergonomics Society Visual Performance Technical Group INSIGHT Newsletter.

Lieutenant Commander (sel), Assistant Professor, School of Aviation Safety, Naval Postgraduate School, Monterey, CA. (February 1995 – April, 1997).

- Primary Investigator of an Advanced Technology Demonstration in night vision technology resulting in a grant of over \$12.35 million and ranked number two by the Chief of Naval Operations, United States Navy. Due to research and development budget reductions, the program funds were reduced the following fiscal year.
- Recognized as aviation human factors expert by assisting military aviation mishap boards in identifying human factors causal factors. Responsible for identifying probable causes and determining techniques to validate whether the causal factor attributed to the aviation mishap.
- Teach Naval aviators' preventive measures to avoid aviation mishaps. Give technical assistance, information, and analyses for aviation mishaps and provide solutions to aviators to reduce mishap rate.
- Write and monitor contracts to various government agencies and private industries to support aviation human factor programs.
- Recognized as a night vision goggle expert. Consultant to government and industry in assessing alternative techniques to improve night vision goggle performance. Contributions include specifying vision requirements for selection of Navy operators, enhancing the Air Force's night vision goggle training curriculum, instructing aviation squadrons in the proper methods to maximize performance.
- 185 hours of military jet, prop, and helicopter flight time.

Lieutenant, Medical Service Corps, USNR, Aerospace Experimental Psychologist, Naval Aerospace Medical Research Laboratory, Pensacola, FL (1993 – 1995).

- Develop and implement methods to optimize integration of humans into man-machine systems. Translate military problems into research experiments resulting in the integration of emerging technology into the systems acquisition.
- Developed the “next generation” of night vision goggles for the Navy. Carried a concept from exploratory development to demonstration and validation of an actual product that will be commercialized for military and private industry.

- Select, train, manage, and evaluate 30 military officers and ensure that these officers support laboratory scientists.
- Managed Sensory Sciences department research budget of over \$1 million dollars. Coordinated research proposals for fellow vision scientists, negotiated contracts with private industry and federal agencies, primary investigator for several night vision goggle programs.
- Answered aviation human factors questions for military aviators. Identified aviation risks for Naval and Marine Corps aviators and presented solutions to minimize the chance of a mishap.
- Received Flight Surgeon/Aerospace Experimental Psychologist Training. Training included instruction in environmental physiology, aviation medicine, pilot training in the Navy's T-34C fixed-wing trainer, and human performance topics related to military aviation.

EDUCATION

Ph.D. Experimental Psychology, University of Louisville, Kentucky, 1992.

M.A. Experimental Psychology, University of Louisville, Kentucky, 1990.

B.A. University of Cincinnati, Ohio, 1987.

GRANTS AWARDED

- **\$10,000** *Test and Evaluation of a Shipboard Visual Navigation Aid for Vessels in Formation*
Sponsored by Office of Naval Research: 2001.
N0001401WR20241
- **\$34,700** *What Is the Best Method to Present Graphical Intelligence Information to the User?*
Sponsored by the Navy's Space Information Warfare Command and Control: 2000.
- **\$9,130** *Develop, Test, and Evaluate the TVE Display*
Sponsored by Office of Naval Research: 2000.
- **\$10,000** *Modeling the Detectability of Color Signals*
Sponsored by Office of Naval Research: 2000;
N0001400WR20312
- **\$11,000** *An Evaluation of Image Sensor Fusion for Nighttime Surveillance*
Sponsored by DARPA: 1999; \$100K, (Co-PI Dr. Scribner at NRL).

- **\$38,000** *Naval Aviator Retention*
Sponsored by Chief of Naval Operations, Bureau of Personnel: 1999;
N0002299NORD364
- **\$25,000** *Improving Human Performance Identification of A Hyperspectral Target*
Sponsored by the Navy's Space Information Warfare Command and Control:
1999; N4175699NR97473
- **\$25,000** *Evaluation Of Color Sensor Fusion To Improve Target Recognition*
Sponsored by Lockheed Martin Corporation: 1998
- **\$80,000** *Beyond Third Generation: Assessment of Sensor Fusion for N88's F/A-18 Targeting Requirement*
Sponsored by DARPA: 1998; N0017398WR00301
- **\$13,978** *Fort A.P. Hill Data Collection*
Sponsored by Lockheed Martin Corporation: 1998
- **\$25,000** *Sensor Image Fusion Evaluation Modeling and Methodology*
Sponsored by Lockheed Martin Corporation: 1998
- **\$50,000** *Naval Aviator Retention*
Sponsored by Naval Air Systems Command: 1998; N0001998WXAG05R
- **\$30,000** *Beyond Third Generation: Assessment of Sensor Fusion for N88's F/A-18 Targeting Requirement.*
Sponsored by Office of Naval Research: 1998; N0001498AF00002
- **\$53,000** *Evaluation of Color Sensor Fusion to Improve Target Recognition*
Sponsored by Lockheed Martin Corporation: 1997
- **\$40,000** *Low-Light and Infrared Evaluation*
Sponsored by Office of Naval Research: 1997; N0001497WR30091
- **\$25,750** *VisionWorks Workstation*
Sponsored by Naval Postgraduate School: 1997; N6227197M0610
- **\$20,000** *NITE Hawk Sensor Fusion Demonstration*
Sponsored by Office of Naval Research: 1997; N0001497WR30078
- **\$200,000** *NITE Hawk Intensified CCD Demonstration*
Sponsored by Naval Medical Research and Development Command. Co-PIs: Naval Research Laboratory and Naval Postgraduate School. 1996
- **\$100,000** *NVG Human Performance Testing & Data Collection Study*

Sponsored by Office of Naval Research. 1996; N0017396WR00383

- **\$100,000** *NITE Hawk Demonstration*
Sponsored by Assistant Secretary of the Navy, Safety and Survivability. Co-PIs: Naval Research Laboratory and Naval Postgraduate School. 1996; N0001496WR30061
- **\$50,000** *Visual Perception Studies Using Night Vision Devices*
Sponsored by Naval Medical Research and Development Command. 1995; N6645295WR50551
- **\$50,000** *Electronic Enhancement of Low Light Imagery*
Sponsored by Office of Naval Research. 1995; N0001495WR30034
- **\$25,000** *Night Vision Goggle Human Performance*
Sponsored by Assistant Secretary of the Navy, Safety and Survivability. 1995; N4814695WR00507
- **\$300,000** *A Solid State Visible/LWIR Color Night Vision System To Improve Situational Awareness and Tactical Efficiency*
Sponsored by Naval Medical Research and Development Command. 1994; N62233NB134
- **\$35,000** *Improvement of Visual Performance with Night Vision Goggles: Implementation in Real and Virtual Environments*
Sponsored by Office of Naval Research. 1994; N0001494WR23040
- **\$13,000** *Simulation of Advanced Sensors*
Sponsored by Naval Air Warfare Center Training Simulation Directorate. 1994; N6133994WR40187

JOURNAL PUBLICATIONS

Evanoff, T.V. and Krebs, W.K. (2002). Conning officers' situational awareness increased by using a tactical vectoring equipment display, Ergonomics, 45(15), 1078-1090.

Krebs, W.K. and Sinai, M.J. (2002). Psychophysical assessments of image-sensor fused imagery, Human Factors, 44, 257-271.

Krebs, W.K., Scribner, D.A., and McCarley, J.S. (2001). Comparing Behavioral Receiver Operating Characteristic Curves to Multidimensional Matched Filters. Optical Engineering, 40(9), 1-9.

Das, S. and Krebs, W.K. (2000). Sensor fusion of multi-spectral imagery. Institution of Electrical Engineers: Electronics Letters, 36, 1115-1116.

- Krebs, W.K., Essock, E.A., Buttrey, S.E., Sinai, M.J., and McCarley, J.S. (2000). An oblique effect of chromatic gratings measured by color mixture thresholds. Perception, 8, 927-935.
- McCarley, J.S., and Krebs, W.K. (2000). Visibility of road hazards in thermal, visible, and sensor-fused nighttime imagery. Applied Ergonomics, 31, 523-530.
- Krebs, W.K., McCarley, J.S., Bryant, S.E. (1999). Effects of mission rehearsal simulation on air-to-ground target acquisition. Human Factors, 41, 553-558.
- Essock, E.A., Sinai, M.J., McCarley, J.S., Krebs, W.K., and DeFord, J. K. (1999). Perceptual ability with real-world nighttime scenes: image-intensified, infrared and fused-color imagery. Human Factors, 41, 438-452.
- Essock, E.A., Krebs, W.K., and Prather, J.R. (1997). Superior sensitivity for tactile oriented proximal-distally on the finger: Implications for mixed class I and class 2 anisotropies. Journal of Experimental Psychology: Human Perception and Performance, 23, 515-527.
- Essock, E.A., McCarley, J.S., Sinai, M.J., Khang, B.G., Lehmkuhle, S., Krebs W.K. and Yu, C. (1997). Extensions of the sustained-like and transient-like effects. In V. Lakshminarayanan (Ed.), Basic and clinical applications of vision science (pp.271-274). Kluwer Academic Press, Dordrecht, The Netherlands.
- Essock, E.A., Fechtner, R.D., Zimmerman, T.J., Krebs, W.K., and Nussdorf, J. (1996). Binocular function in early glaucoma. Journal of Glaucoma, 5, 395-405.
- Essock, E.A., Krebs, W.K., and Prather, J.R. (1992). An anisotropy of human tactile sensitivity and its relation to the visual oblique effect. Experimental Brain Research, 91, 520-524.

PROCEEDINGS, TECHNICAL REPORTS, AND PRESENTATIONS

- Krebs, W.K., Xing, J., and Ahumada, A.J. (2002). A simple tool for predicting the readability of a monitor. Proceedings of the 46th Annual Meeting Human Factors and Ergonomics Society, 46, 1659-1663.
- Piccione, D., Krebs, W.K., Warren, P., and Driggers, R.G. (2002). Electro-optic sensors to aid tower air traffic controllers nighttime detection, recognition, and identification. Proceedings of the 46th Annual Meeting Human Factors and Ergonomics Society, 46, 51-55.

- Krebs, W.K. and Ahumada, A.J. (2001). Air traffic control weather radar displays: validation of a masking metric for prediction of text block identification. Proceedings of the 45th Annual Meeting Human Factors and Ergonomics Society, 45, 1328-1332.
- Ahumada, A.J. and Krebs, W.K. (2001). Additivity of color masking. Vision Science Society, 1, 364, FT Lauderdale, FL.
- Driggers, R.G., Krapels, K., Vollmerhausen, R., Warren, P., Scribner, D.A., Howard, G., Tsou, B., and Krebs, W.K. (2001). Target detection threshold in noisy color imagery. In G.C. Holst (Ed.), Proceedings of the SPIE - Infrared Imaging Systems: Design, Analysis, Modeling, and Testing XII, (Vol. 4372, pp. 162-169). Bellingham, WA: SPIE – The International Society for Optical Engineering.
- Ahumada, A.J. and Krebs, W.K. (2001). Masking in color images. In B.E. Rogowitz & T.N. Pappas (Eds.), Proceedings of the SPIE-Human Vision and Electronic Imaging VI, (Vol. 4299, pp.187-194). Bellingham, WA: SPIE – The International Society for Optical Engineering.
- Ahumada, A.J. and Krebs, W.K. (2000). Models for masking by fixed-pattern chromatic noise, Psychonomic Society of America Annual Meeting, New Orleans LA, November 18, 2000.
- Ahumada, A.J. and Krebs, W.K. (2000). Masking by fixed-pattern chromatic noise, Optical Society of America Annual Meeting, Providence RI, October 24, 2000.
- Ahumada, A.J. and Krebs, W.K. (2000). Signal detection in fixed pattern chromatic noise. Investigative Ophthalmology and Visual Science, (SUPPL) 41, 3796, FT Lauderdale, FL.
- Das, S., Zhang, Y-L, Krebs, W.K. (2000). Color night vision for navigation and surveillance, In J. Sutton and S.C. Kak (Eds), Proceedings of the Fifth Joint Conference on Information Sciences, Atlantic City, NJ, February 28th
- Krebs, W.K., Evanoff, T.V., and Sinai, M.J. (2000). An evaluation of a shipboard collision avoidance display. Proceedings of the International Ergonomics Association and the 44th Annual Meeting Human Factors and Ergonomics Society, 44(3), 431-434.
- Krebs, W.K., McCarley, J.S., Kozek, T., Miller, G.M., Sinai, M.J., and Werblin, F.S. (1999). An evaluation of a sensor fusion system to improve drivers' nighttime detection of road hazards. Proceedings of the 43rd Annual Meeting Human Factors and Ergonomics Society, 43, 1333-1337.

- Sinai, M.J., Krebs, W.K., Darken, R.P., Rowland, J. H., and McCarley, J.S. (1999). Egocentric distance perception in a virtual environment using a perceptual matching task. Proceedings of the 43rd Annual Meeting Human Factors and Ergonomics Society, 43, 1256-1260.
- Krebs, W.K., Scribner, D.A., McCarley, J.S., Ogawa, J.S., and Sinai, M.J. (1999). Comparing human target detection with multidimensional matched filtering methods. North Atlantic Treaty Organization Research and Technology Organization Meeting Proceedings 45: Search and Target Acquisition, 16.1 – 16.7, June 1999, Utrecht, Netherlands.
- Sinai, M.J., McCarley, J.S., and Krebs, W.K. (1999). Scene recognition with infrared, low-light, and sensor-fused imagery. An IRIA-IRIS Proceedings: 1999 Meeting of the IRIS Specialty Group on Passive Sensors (report number 440000-121-X(I)), 1, 155-163. Defense Technical Information Center, Fort Belvoir, VA.
- Sinai, M.J., McCarley, J.S., Krebs, W.K., and Essock, E.A. (1999). Psychophysical comparisons of single- and dual-band fused imagery. In J.G. Verly (Ed.), Proceedings of the SPIE-Synthetic Advanced Vision, (Vol. 3691, pp.176-183). Bellingham, WA: SPIE – The International Society for Optical Engineering.
- Krebs, W.K., Kaiser, J.P., Darken, R.P., Sinai, M.J., McCarley, J.S. (1999). Visual deficits following prolonged exposure in a virtual environment. Investigative Ophthalmology and Visual Science, (SUPPL) 40, 2289, FT Lauderdale, FL.
- McCarley, J.S., Krebs, W.K., Sinai, M.J. (1999). Target detection in image-intensified visible light and long-wave infrared nighttime imagery. Investigative Ophthalmology and Visual Science, (SUPPL) 40, 200, FT Lauderdale, FL.
- Krebs, W.K., Scribner, D.A., Miller, G.M., Ogawa, J.S., Schuler, J. (1998). Beyond third generation: a sensor fusion targeting FLIR pod for the F/A-18. In B.V. Dasarathy (Ed.), Proceedings of the SPIE-Sensor Fusion: Architectures, Algorithms, and Applications II, (Vol. 3376, pp.129-140). Bellingham, WA: SPIE – The International Society for Optical Engineering.
- McDaniel, R., Scribner, D., Krebs, W., Warren, P., Ockman, N., McCarley, J. (1998). Image fusion for tactical applications. In B.F. Andresen & S.M. Strojnik (Eds.), Proceedings of the SPIE - Infrared Technology and Applications XXIV, (Vol. 3436, pp. 685-695). Bellingham, WA: SPIE – The International Society for Optical Engineering.

- Krebs, W.K., Essock, E.A., Buttrey, S.E., and Sinai, M.J. (1998). Chromatic oblique effect of contrast sensitivity. Investigative Ophthalmology and Visual Science, (SUPPL), 39, 771, FT Lauderdale, FL.
- Therrien, C.W., Scrofani, J., and Krebs, W.K. (1997). An adaptive technique for the enhanced fusion of low-light visible with uncooled thermal infrared imagery. In R.M. Gray & B. Hunt (Eds.), Proceedings of the IEEE: International Conference on Imaging Processing, 405-408. Los Alamitos, CA: Institute of Electrical and Electronics Engineers.
- DeFord, J.K., Sinai, M.J., Krebs, W.K., Srinivasan, N., and Essock, E.A. (1997). Perceptual organization of color and non-color nighttime real-world imagery. Investigative Ophthalmology and Visual Science, (SUPPL) 38, 2998, FT Lauderdale, FL.
- Essock, E.A., Sinai, M.J., Srinivasan, N., DeFord, J.K., and Krebs, W.K. (1997). Texture-based segmentation in real world nighttime scenes. Investigative Ophthalmology and Visual Science, (SUPPL) 38, 2991, FT Lauderdale, FL.
- Krebs, W.K., Lobik, D., Therrien C., and Essock, E.A. (1996). Is an integrated DOG(s) or wavelet transform the best method to model sensitivity profiles underlying desensitization-sensitization data? Investigative Ophthalmology and Visual Science, (SUPPL) 36, 3353, FT Lauderdale, FL.
- Krebs, W.K., Scribner, D.A., Schuler, J., Miller, G., and Lobik, D. (1996). Human factor test and evaluation of a low light sensor fusion device for automobile applications. Automotive Night Vision/Enhanced Driving Conference, June 5, Detroit, MI.
- Essock, E.A., McCarley, J.S., Sinai, M.J., and Krebs, W.K. (1996). Functional assessment of night-vision enhancement of real-world scenes. Investigative Ophthalmology and Visual Science, (SUPPL) 36, 2368, FT Lauderdale, FL.
- Sampson, M.T., Krebs, W.K., Scribner, D.A., and Essock, E.A. (1996). Visual search in natural (visible, infrared, and fused visible and infrared) stimuli. Investigative Ophthalmology and Visual Science, (SUPPL) 36, 1362, FT Lauderdale, FL.
- Sinai, M.J., McCarley, J.S., Krebs, W.K., and Essock, E.A. (1996). Perceptual organization of degraded visual stimuli. Psychonomic Society, Chicago, IL.
- Prather, J.R., Krebs, W.K., Sinai, M.J., McCarley, J.S., and Essock, E.A. (1995). Oblique orientations are confused in visual search. Investigative Ophthalmology and Visual Science, (SUPPL) 36, 4132, FT Lauderdale, FL.

- Krebs, W.K., and Mittelman, M.H. (1994). Is your blind spot where you think it is? Training Squadron Seven (VT-7) Safety Operations Standdown Newsletter, March, 5-6.
- Krebs, W.K., Tinkle, E.C., and Still, D.L. (1994). Ocular adjustment of aviator's night vision imaging system (ANVIS) during different night sky conditions. Conference Proceedings of the Society for Information Display, 25, San Jose, CA, 303-305.
- Krebs, W.K., Elias, J.J., Parker, J.E., and Still, D.L. (1994). Using a fast Fourier transform (FFT) to identify differences between night vision goggle (NVG) images versus unaided images: How does this effect night attack? Proceedings of the Aerospace Medical Association 64th Annual Science Meeting Program, 65, 47, San Antonio, TX.
- Parker, J.E., Krebs, W.K., Marsh, J.S., Still, D.L., and Temme, L.A. (1994). The sharper image: Implementing a fast Fourier transform (FFT) to enhance a video captured image. Naval Aerospace Medical Research Laboratory Special Report #SR94-1, Pensacola, FL.
- Sergelin, A.Z., Krebs, W.K., and Still, D.L. (1994). A survey of the optical characteristics of aviator night imaging system (ANVIS) devices used in the fleet. Proceedings of the Aerospace Medical Association 64th Annual Science Meeting Program, 65, 48, San Antonio, TX.
- Still, D.L., Krebs, W.K., Temme, L.A., and Mittelman, M.H. (1994). The effect of blur on pilots' ANVIS spatial acuity. Proceedings of the Aerospace Medical Association 64th Annual Science Meeting Program, 65, 50, San Antonio, TX.
- Essock, E.A., and Krebs, W.K. (1992). Sensitization of a line target depends on orientation and temporal modulation. Investigative Ophthalmology and Visual Science, (SUPPL) 33, 1349, Sarasota, FL.
- Krebs, W.K., and Carswell, C.M. (1991). Dual-Task performance with intra-modal and cross-modal displays: The effects of attentional strategy. Proceedings of the Southern Society of Philosophy and Psychology, Atlanta, GA.
- Krebs, W.K., and Essock, E.A. (1991). Binocular summation and the applied duration on binocular abilities. Investigative Ophthalmology and Visual Science, (SUPPL) 32, 693, Sarasota, FL.
- Krebs, W.K., and Foulke, E. (1991). The intelligibility of ECHO-modified and ECHO-unmodified synthesized speech. Proceedings of the Southern Society of Philosophy and Psychology, Atlanta, GA.

- Krebs, W.K., Carswell, C.M., and Winch, B. (1991). Homogeneity effects in multichannel monitoring. Poster Presented at the Human Factors Society 35th Annual Meeting, San Francisco, CA.
- Krebs, W.K., Essock, E.A., and Prather, J.R. (1991). Anisotropic fingertip tactile sensitivity: No tactile oblique effect. Proceedings of the Southern Society of Philosophy and Psychology, Atlanta, GA.
- Krebs, W.K., Essock, E.A., and Prather, J.P. (1991). Encoding information via orientation in tactile displays. Poster Presented at the Human Factors Society 35th Annual Meeting, San Francisco, CA.
- Zimmerman, T.J., Essock, E.A., Nussdorf, J.D., Nardin, G.F., Roe, I., and Krebs, W.K. (1991). Assessment of visual function in early glaucoma. Investigative Ophthalmology and Visual Science, (SUPPL) 32, 1103, Sarasota, FL.

COMPUTER SKILLS

- Visual Basic, HTML, SPSS, SAS, SPLUS, Java

SECURITY CLEARANCE

- Top Secret (SCI)

AWARDS and PROFESSIONAL ACTIVITIES

- Recognized for Outstanding Research Achievements at the Naval Postgraduate School, 1999.
- Science Advisor for the Monterey County School Regional Science and Engineering Fair, 2000.
- Navy Commendation Medal, Expert Pistol Ribbon, National Defense Service Medal.
- Member of the Human Factors and Ergonomics Society, Association for Computing Machinery (ACM), ACM Computer Human Interaction (CHI), Association for Research in Vision and Ophthalmology.

- Chaired the Naval Postgraduate School's Protection of Human Subjects Committee (1997 – present).
- Sponsored a tri-service Night Vision Goggle/Forward Looking Infrared systems workshop for the Navy, Marine Corps, Army, and Air Force, 1994.
- Science Advisor for the West Panhandle High School Regional Science and Engineering Fair, 1993 - 1994.

EXPERT WITNESS

- Juneau, AK (05/30/98) Aircraft Mishap Investigation.
 - On May 30th, 1998 at 1611 Alaska daylight time, an Aerospatiale AS-350-B2 helicopter, N187EH, and a Cessna 172RG airplane, N4948V, collided in midair, approximately four miles southeast of downtown Juneau, Alaska.
 - Determine whether the Cessna 172RG pilot or the Aerospatiale AS-350-B2 helicopter pilot could have detected each other in sufficient amount of time to avoid the midair impact.

FEATURED ARTICLES ABOUT MY RESEARCH

- “T.V.E. Display: A Proposed Shipboard Navigation Display To Enhance Conning Officers’ Situational Awareness (2001, February). Naval Postgraduate School Research Newsletter, 6-7, 39-41.
- “Sensor fusion May Aid Our Senses”. (1999, April 16). Monterey County Herald, pp. D1, D3.
- “Multi-Sensor Displays”. (1997, June). Naval Postgraduate School Research Newsletter, 4-5.
- Kuska, D. (1996, May-June). NPS Fuses night vision technologies. Naval Aviation News, 21-22.

INVITED TALKS

- Krebs, W.K. and Ahumada, A.J. (2002). Using an image discrimination model to predict the detectability of targets in color scenes. Proceedings of the Combating Uncertainty with Fusion – An Office of Naval Research and NASA conference, Woods Hole, MA, April 22-24, 2002.

Krebs, W.K. (2000, April 4th). Human Error and Transportation. Paper presented to the Psychology Department at the University of Michigan, Video Teleconference, Monterey CA.

THESES STUDENTS ADVISED

- Alaniz, B. (2000). Analysis of the deterioration rate of ship-handling skill of surface warfare officers on shore duty. Master of Science in Operations Research, Naval Postgraduate School.
- Lowell, J.P. (2000). Applied GUI design and usability testing for portable multi-platform battlefield information systems. Master of Science in Operations Research, Naval Postgraduate School.
- Maly, K.W. (1999). An evaluation of hyperspectral displays for mission planning. Master Of Science in Systems Technology (Scientific and Technical Intelligence), Naval Postgraduate School.
- Evanoff, T.V. (1999). Design and analysis of a shipboard visual navigation aid for vessels in a formation: tactical vectoring equipment. Master of Science in Operations Research, Naval Postgraduate School.
 - **Awarded the Military Operations Research Society (MORS) Award**
- Mills, H.E. (1999). An analysis of the aviation career continuation pay proposal using the annualized cost of leaving (ACOL) model. Master of Science in Operations Research, Naval Postgraduate School.
- Kaiser, J. (1999). Immersion within a virtual environment induces sensory adaptation. Master of Science in Operations Research, Naval Postgraduate School.
- Aguilar, J. (1999). The role of color and false color in object recognition with degraded and non-degraded images. Master of Science in Operations Research, Naval Postgraduate School.
- Bodine, C. (1999). Psychophysical comparisons in image compression algorithms. Master of Science in Operations Research, Naval Postgraduate School.
- Vargo, J. T. (1999). An evaluation of operator performance using color and artificial color in natural scene perception. Master of Science in Operations Research, Naval Postgraduate School.

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- **Awarded the Military Operations Research Society (MORS) Award**